

Table 1.  
Unsorted Intel Stock Price Distribution

Column 1A	Column 1B	Column 1C	Column 1D	Column 1E
Monthly Index	Monthly Return	Current Price (\$)	step 203 Prospective Future Stock Price Outcome	step 203 Respective Probability
Jun-00	0.03084	133.69	137.811	0.04167
May-00	0.07014	133.69	143.065	0.04167
Apr-00	-0.08148	133.69	122.795	0.04167
Mar-00	0.13985	133.69	152.385	0.04167
Feb-00	0.14109	133.69	152.550	0.04167
Jan-00	0.23234	133.69	164.750	0.04167
Dec-99	0.07862	133.69	144.199	0.04167
Nov-99	0.00412	133.69	134.239	0.04167
Oct-99	0.01417	133.69	135.583	0.04167
Sep-99	-0.10187	133.69	120.069	0.04167
Aug-99	0.14396	133.69	152.933	0.04167
Jul-99	0.14863	133.69	153.558	0.04167
Jun-99	0.25743	133.69	168.103	0.04167
May-99	-0.18136	133.69	109.442	0.04167
Apr-99	-0.03235	133.69	129.364	0.04167
Mar-99	0.12458	133.69	150.342	0.04167
Feb-99	-0.15784	133.69	112.586	0.04167
Jan-99	0.13549	133.69	151.801	0.04167
Dec-98	0.03097	133.69	137.829	0.04167
Nov-98	0.28941	133.69	172.379	0.04167
Oct-98	0.06891	133.69	142.901	0.04167
Sep-98	0.09787	133.69	146.772	0.04167
Aug-98	-0.10390	133.69	119.798	0.04167
Jul-98	0.15784	133.69	154.790	0.04167
Total				1.00000

**Table 2.**  
**Sorted Intel Stock Price Distribution**

Column 2A	Column 2B	Column 2C	Column 2D
	step 204	step 204	step 205
Monthly Index	Prospective Future Stock Price Outcome (\$)	Respective Probability	Cumulative Probability
	x	f(x)	F(x)
May-99	109.44	0.04167	0.04167
Feb-99	112.59	0.04167	0.08333
Aug-98	119.80	0.04167	0.12500
Sep-99	120.07	0.04167	0.16667
Apr-00	122.80	0.04167	0.20833
Apr-99	129.36	0.04167	0.25000
Nov-99	134.24	0.04167	0.29167
Oct-99	135.58	0.04167	0.33333
Jun-00	137.81	0.04167	0.37500
Dec-98	137.83	0.04167	0.41667
Oct-98	142.90	0.04167	0.45833
May-00	143.06	0.04167	0.50000
Dec-99	144.20	0.04167	0.54167
Sep-98	146.77	0.04167	0.58333
Mar-99	150.34	0.04167	0.62500
Jan-99	151.80	0.04167	0.66667
Mar-00	152.38	0.04167	0.70833
Feb-00	152.55	0.04167	0.75000
Aug-99	152.93	0.04167	0.79167
Jul-99	153.56	0.04167	0.83333
Jul-98	154.79	0.04167	0.87500
Jan-00	164.75	0.04167	0.91667
Jun-99	168.10	0.04167	0.95833
Nov-98	172.38	0.04167	1.00000
Total		1.00000	

Table 3.  
Kernel, or Core Process, of the Wang Transform ( $\Lambda=0.4525$ )

Column 2B step 102	Column 2D step 102	Column 3A step 103	Column 3B step 104	Column 3C step 105
Prospective Future Stock Price Outcome (\$)	Cumulative Probability...	... After Applying Normal Inversion	... After Shifting By Adding $\Lambda$	... After Applying Normal Distribution
x	F(x)			
109.44	0.04167	-1.7317	-1.2791	0.10043
112.59	0.08333	-1.3830	-0.9305	0.17607
119.80	0.12500	-1.1503	-0.6978	0.24265
120.07	0.16667	-0.9674	-0.5149	0.30332
122.80	0.20833	-0.8122	-0.3597	0.35954
129.36	0.25000	-0.6745	-0.2220	0.41217
134.24	0.29167	-0.5485	-0.0960	0.46176
135.58	0.33333	-0.4307	0.0218	0.50870
137.81	0.37500	-0.3186	0.1339	0.55326
137.83	0.41667	-0.2104	0.2421	0.59565
142.90	0.45833	-0.1046	0.3479	0.63604
143.06	0.50000	0.0000	0.4525	0.67456
144.20	0.54167	0.1046	0.5572	0.71129
146.77	0.58333	0.2104	0.6630	0.74632
150.34	0.62500	0.3186	0.7712	0.77970
151.80	0.66667	0.4307	0.8833	0.81145
152.38	0.70833	0.5485	1.0011	0.84160
152.55	0.75000	0.6745	1.1270	0.87013
152.93	0.79167	0.8122	1.2648	0.89702
153.56	0.83333	0.9674	1.4200	0.92219
154.79	0.87500	1.1503	1.6029	0.94552
164.75	0.91667	1.3830	1.8355	0.96679
168.10	0.95833	1.7317	2.1842	0.98553
172.38	1.00000	500000.0000	500000.4525	1.00000

Table 4.  
Wang Price of the Future Intel Stock in One Month ( $\lambda=0.4525$ )

Column 3B	Column 3C	Column 4A	Column 4B
	step 207	step 208	step 209
Prospective Future Stock Price Outcome	After Wang Transform	After Decumulation	After Multiplication To Each Outcome
	Transformed Probability	Distorted Probability	Weighted Value
$x$	$F^*(x)$	$f^*(x)$	$f^*(x) \cdot x$
109.44	0.10042	0.10042	10.990
112.59	0.17606	0.07564	8.516
119.80	0.24264	0.06658	7.976
120.07	0.30330	0.06067	7.284
122.80	0.35953	0.05622	6.904
129.36	0.41216	0.05263	6.809
134.24	0.46175	0.04959	6.657
135.58	0.50869	0.04693	6.363
137.81	0.55324	0.04456	6.141
137.83	0.59564	0.04239	5.843
142.90	0.63603	0.04039	5.772
143.06	0.67455	0.03852	5.510
144.20	0.71128	0.03674	5.297
146.77	0.74631	0.03503	5.141
150.34	0.77969	0.03338	5.018
151.80	0.81144	0.03176	4.821
152.38	0.84159	0.03015	4.594
152.55	0.87013	0.02853	4.353
152.93	0.89701	0.02689	4.112
153.56	0.92218	0.02517	3.865
154.79	0.94552	0.02333	3.611
164.75	0.96678	0.02127	3.504
168.10	0.98552	0.01874	3.150
172.38	1.00000	0.01448	2.495
Total		1.0000	\$ 134.73
			step 210
			\$ 133.94
			step 211

Table 5.  
Wang Price of a European Call Option on Intel Stock with a Strike Price of 140 (Lambda=0.4685)

Column 2B	Column 2D	Column 5A step 307	Column 5B step 308	Column 5C step 309	Column 5D step 315	Column 5E step 316
Prospective Future Stock Price Outcome (\$)	Cumulative Probability	After Wang Transform	After Decumulation, Distorted Probability Weight	Weighted Value For Underlying (\$)	Contingent Payoff For Option (\$)	Weighted Value For Option (\$)
x	F(x)	F*(x)	f*(x)	x · f*(x)	=max(x-140,0)	f*(x) · V(x)
109.44	0.0417	0.1033	0.1033	11.302	0.00	0.000
112.59	0.0833	0.1802	0.0770	8.665	0.00	0.000
119.80	0.1250	0.2477	0.0674	8.079	0.00	0.000
120.07	0.1667	0.3089	0.0613	7.354	0.00	0.000
122.80	0.2083	0.3655	0.0566	6.952	0.00	0.000
129.36	0.2500	0.4184	0.0529	6.839	0.00	0.000
134.24	0.2917	0.4681	0.0497	6.673	0.00	0.000
135.58	0.3333	0.5151	0.0470	6.366	0.00	0.000
137.81	0.3750	0.5596	0.0445	6.132	0.00	0.000
137.83	0.4167	0.6018	0.0423	5.825	0.00	0.000
142.90	0.4583	0.6420	0.0402	5.744	2.90	0.117
143.06	0.5000	0.6803	0.0383	5.474	3.06	0.117
144.20	0.5417	0.7167	0.0364	5.254	4.20	0.153
146.77	0.5833	0.7514	0.0347	5.091	6.77	0.235
150.34	0.6250	0.7844	0.0330	4.960	10.34	0.341
151.80	0.6667	0.8157	0.0313	4.757	11.80	0.370
152.38	0.7083	0.8454	0.0297	4.525	12.38	0.368
152.55	0.7500	0.8735	0.0281	4.279	12.55	0.352
152.93	0.7917	0.8999	0.0264	4.034	12.93	0.341
153.56	0.8333	0.9245	0.0246	3.783	13.56	0.334
154.79	0.8750	0.9473	0.0228	3.525	14.79	0.337
164.75	0.9167	0.9680	0.0207	3.409	24.75	0.512
168.10	0.9583	0.9861	0.0182	3.051	28.10	0.510
172.38	1.0000	1.0000	0.0139	2.396	32.38	0.450
Total			1.0000	\$ 134.47		\$ 4.54
				step 310		step 317
				\$ 133.69		\$ 4.51
				step 311		step 318

Table 6.  
Wang Price for the Underlying (Lambda=0.0854)

Column 6A	Column 6B	Column 6C	Column 6D	Column 6E	Column 6F
step 304	step 304	step 305	step 307	step 308	step 309
Sorted	Assigned	Cumulative	After Wang	Distorted	Weighted
Outcome (\$)	Probability	Probability	Transform	Probability	Payoff (\$)
x	f(x)	F(x)	F*(x)	f*(x)	f*(x) . x
\$ (123.00)	0.1	0.1	0.1158	0.1158	\$ (14.25)
\$ (21.00)	0.1	0.2	0.2248	0.1089	\$ (2.29)
\$ (9.00)	0.1	0.3	0.3303	0.1056	\$ (0.95)
\$ 7.00	0.1	0.4	0.4333	0.1030	\$ 0.72
\$ 20.00	0.1	0.5	0.5340	0.1007	\$ 2.01
\$ 20.00	0.1	0.6	0.6326	0.0986	\$ 1.97
\$ 28.00	0.1	0.7	0.7290	0.0964	\$ 2.70
\$ 36.00	0.1	0.8	0.8230	0.0940	\$ 3.39
\$ 50.00	0.1	0.9	0.9142	0.0911	\$ 4.56
\$ 57.00	0.1	1.0	1.0000	0.0858	\$ 4.89
Total	1.0000			1.0000	\$ 2.76
					step 311
					\$ 2.58
					step 312

Table 7.  
Wang Price for the Put Option with a Strike Price of 0.00 (Lambda=0.10)

Column 6A	Column 6C	Column 7A	Column 7B	Column 7C	Column 7D	Column 7E
		step 307	step 308	step 309	step 315	step 316
Sorted	Cumulative	Wang	Distorted	Weighted	Contingent	Weighted
Outcome (\$)	Probability	Transform	Probability	Value (\$)	Payoff (\$)	Payoff (\$)
x	F(x)	F*(x)	f*(x)	x . f*(x)	=max(-x,0)	f*(x) . V(x)
\$ (123.00)	0.1000	0.1187	0.1187	\$ (14.599)	\$ 123.00	\$ 14.60
\$ (21.00)	0.2000	0.2292	0.1105	\$ (2.320)	\$ 21.00	\$ 2.32
\$ (9.00)	0.3000	0.3356	0.1065	\$ (0.958)	\$ 9.00	\$ 0.96
\$ 7.00	0.4000	0.4391	0.1034	\$ 0.724	\$ -	\$ -
\$ 20.00	0.5000	0.5398	0.1008	\$ 2.015	\$ -	\$ -
\$ 20.00	0.6000	0.6381	0.0983	\$ 1.965	\$ -	\$ -
\$ 28.00	0.7000	0.7338	0.0957	\$ 2.681	\$ -	\$ -
\$ 36.00	0.8000	0.8268	0.0930	\$ 3.348	\$ -	\$ -
\$ 50.00	0.9000	0.9164	0.0896	\$ 4.482	\$ -	\$ -
\$ 57.00	1.0000	1.0000	0.0836	\$ 4.763	\$ -	\$ -
Total			1.0000	\$ 2.10		\$ 17.88
				step 310		step 317
				\$ 1.96		\$ 16.71
				step 311		step 318

Table 8.  
Rating Migration for a BBB-rated Bond over 1 Year

Column 8A	Column 8B	Column 8C	Column 8D	Column 8E
			step 403	step 403
Year-end	Coupon	Forward	Total	Estimated
Rating	Rate	Value	Value (\$)	Probability
AAA	6%	103.37	109.37	0.020%
AA	6%	103.1	109.19	0.330%
A	6%	102.66	108.66	5.950%
BBB	6%	101.55	107.55	86.930%
BB	6%	96.02	102.02	5.300%
B	6%	92.1	98.10	1.170%
CCC	6%	77.64	83.64	0.120%
Default	0%	51.13	51.13	0.180%
Total				100.000%

Table 9. Wang Price of the BBB-bond (Lambda=0.698)

Column 9A	Column 9B	Column 9C	Column 9D	Column 9E	Column 9F	Column 9G
step 404	step 404	step 405	step 407	step 408	step 409	step 410
Total Value	Estimated	Cumulative	After Wang	Distorted	Apply	Weighted
In 1 Year	Probability	Probability	Transform	Probability	Payoff (\$)	Value (\$)
x	f(x)	F(x)	F*(x)	f*(x)	=x	v(x) . f*(x)
51.13	0.00180	0.0018	0.0134	0.01344	51.130	0.687
83.64	0.00120	0.0030	0.0202	0.00675	83.640	0.565
98.10	0.01170	0.0147	0.0694	0.04923	98.100	4.830
102.02	0.05300	0.0677	0.2133	0.14384	102.020	14.674
107.55	0.86930	0.9370	0.9871	0.77380	107.550	83.222
108.66	0.05950	0.9965	0.9997	0.01259	108.660	1.369
109.19	0.00330	0.9998	1.0000	0.00033	109.190	0.036
109.37	0.00020	1.0000	1.0000	0.00001	109.370	0.001
Total	1.00000			1.00000		\$ 105.38
						step 411
						\$ 100.37
						step 412

**Table 10.**  
**Estimation of True Market Price of Risk ( $\lambda=0.788$ )**

Column 9A	Column 9C	Column 10A	Column 10B	Column 10C	Column 10D
	step 405	step 407	step 408	step 409	step 410
Total Value	Cumulative	After Wang	Distorted	Contingent	Weighted
In 1 Year (\$)	Probability	Transform	Probability	Payoff (\$)	Value (\$)
x	F(x)	F*(x)	f*(x)	=x	v(x) . f*(x)
51.13	0.00180	0.0169	0.01687	51.130	0.862
83.64	0.00300	0.0250	0.00815	83.640	0.681
98.10	0.01470	0.0823	0.05724	98.100	5.615
102.02	0.06770	0.2404	0.15811	102.020	16.130
107.55	0.93700	0.9898	0.74942	107.550	80.600
108.66	0.99650	0.9998	0.00998	108.660	1.084
109.19	0.99980	1.0000	0.00024	109.190	0.026
109.37	1.00000	1.0000	0.00001	109.370	0.001
Total			1.00000		\$ 105.00
					step 411
					\$ 100.00
					step 412

**Table 11.**  
**Estimated Probability Distribution for Earthquake Payoff**

Column 11A	Column 11B	Column 11C
	step 503	step 503
Richter	Payout	Estimated
Scale	Amount (\$)	Probability
	x	f(x)
0-5.9	\$ -	0.80000
6.0	\$ 100.00	0.02000
6.1	\$ 110.52	0.01800
6.2	\$ 122.14	0.01620
6.3	\$ 134.99	0.01458
6.4	\$ 149.18	0.01312
6.5	\$ 164.87	0.01181
6.6	\$ 182.21	0.01063
6.7	\$ 201.38	0.00957
6.8	\$ 222.55	0.00861
6.9	\$ 245.96	0.00775
7+	\$ 271.83	0.06974
Total		1.00000



Table 12.  
Wang Price for the Earthquake Insurance ( $\lambda = -0.3$ )

Column 12A	Column 12B	Column 12C	Column 12D	Column 12E	Column 12F
step 504	step 504	step 505	step 507	step 508	step 509
Payout	Estimated	Cumulative	After Wang	Distorted	Weighted
Amount (\$)	Probability	Probability	Transform	Probability	Payoff (\$)
x	f(x)	F(x)	F*(x)	f*(x)	x f*(x)
\$ -	0.80000	0.80000	0.7060	0.7060	\$ -
\$ 100.00	0.02000	0.82000	0.7308	0.0249	\$ 2.49
\$ 110.52	0.01800	0.83800	0.7537	0.0229	\$ 2.53
\$ 122.14	0.01620	0.85420	0.7748	0.0210	\$ 2.57
\$ 134.99	0.01458	0.86878	0.7941	0.0193	\$ 2.61
\$ 149.18	0.01312	0.88190	0.8118	0.0177	\$ 2.64
\$ 164.87	0.01181	0.89371	0.8281	0.0163	\$ 2.68
\$ 182.21	0.01063	0.90434	0.8430	0.0149	\$ 2.72
\$ 201.38	0.00957	0.91391	0.8566	0.0137	\$ 2.75
\$ 222.55	0.00861	0.92252	0.8691	0.0125	\$ 2.78
\$ 245.96	0.00775	0.93026	0.8806	0.0114	\$ 2.81
\$ 271.83	0.06974	1.00000	1.0000	0.1194	\$ 32.47
Total	1.00000			1.00000	\$ 59.05
					step 511
					\$ 55.18
					step 512

Table 13.  
Wang Price of the Contingent Payoff on the Earthquake Insurance

Column 12A	Column 12E	Column 13A	Column 13B
step 504	step 508	step 515	step 516
Payout	Distorted	Contingent	Weighted
Amount (\$)	Probability	Payoff (\$)	Payoff (\$)
x	f*(x)	$\max(x-200, 0)$	$V(x) \cdot f^*(x)$
\$ -	0.7060	\$ -	\$ -
\$ 100.00	0.0249	\$ -	\$ -
\$ 110.52	0.0229	\$ -	\$ -
\$ 122.14	0.0210	\$ -	\$ -
\$ 134.99	0.0193	\$ -	\$ -
\$ 149.18	0.0177	\$ -	\$ -
\$ 164.87	0.0163	\$ -	\$ -
\$ 182.21	0.0149	\$ -	\$ -
\$ 201.38	0.0137	\$ 1.38	\$ 0.02
\$ 222.55	0.0125	\$ 22.55	\$ 0.28
\$ 245.96	0.0114	\$ 45.96	\$ 0.53
\$ 271.83	0.1194	\$ 71.83	\$ 8.58
Total	1.00000		\$ 9.41
			step 517
			\$ 8.79
			step 518

Table 14.  
A Variation of Table 12, Using Exceedence Probabilities

Column 12A	Column 12B	New Column 12C	New Column 12D	Column 12E	Column 12F
step 504	step 504	step 505_new	step 507_new	step 508_new	step 509
Payout	Estimated	Exceedence	After Wang	Distorted	Weighted
Amount (\$)	Probability	Probability	Transform	Probability	Payoff (\$)
x	f(x)	G(x)	G*(x)	f*(x)	x f*(x)
\$ -	0.80000	0.20000	0.2940	0.7060	\$ -
\$ 100.00	0.02000	0.18000	0.2692	0.0249	\$ 2.49
\$ 110.52	0.01800	0.16200	0.2463	0.0229	\$ 2.53
\$ 122.14	0.01620	0.14580	0.2252	0.0210	\$ 2.57
\$ 134.99	0.01458	0.13122	0.2059	0.0193	\$ 2.61
\$ 149.18	0.01312	0.11810	0.1882	0.0177	\$ 2.64
\$ 164.87	0.01181	0.10629	0.1719	0.0163	\$ 2.68
\$ 182.21	0.01063	0.09566	0.1570	0.0149	\$ 2.72
\$ 201.38	0.00957	0.08609	0.1434	0.0137	\$ 2.75
\$ 222.55	0.00861	0.07748	0.1309	0.0125	\$ 2.78
\$ 245.96	0.00775	0.06974	0.1194	0.0114	\$ 2.81
\$ 271.83	0.06974	0.00000	0.0000	0.1194	\$ 32.47
Total	1.00000			1.00000	\$ 59.05
					step 511
					\$ 55.18
					step 512

**Table 15.**  
**An Insurance Policy Covering the Total Loss of a Satellite Launch ( $\Lambda = -0.2$ , Degrees of Freedom = 11)**

Column 15A	Column 15B	Column 15C	Column 15D	Column 15E	Column 15F
			Steps 601-606		
Loss	Estimated	Cumulative	After Two-Factor	Distorted	Weighted
Amount	Probability	Probability	Wang Transform	Probability	Value
$x$	$f(x)$	$F(x)$	$F^*(x)$	$f^*(x)$	$x f^*(x)$
\$ -	0.96000	0.96000	0.9254	0.9254	\$ -
\$ 200.00 mil	0.04000	1.00000	1.0000	0.0746	\$ 14.93 mil
Total	1.00000			1.00000	\$ 14.93 mil
					Price